

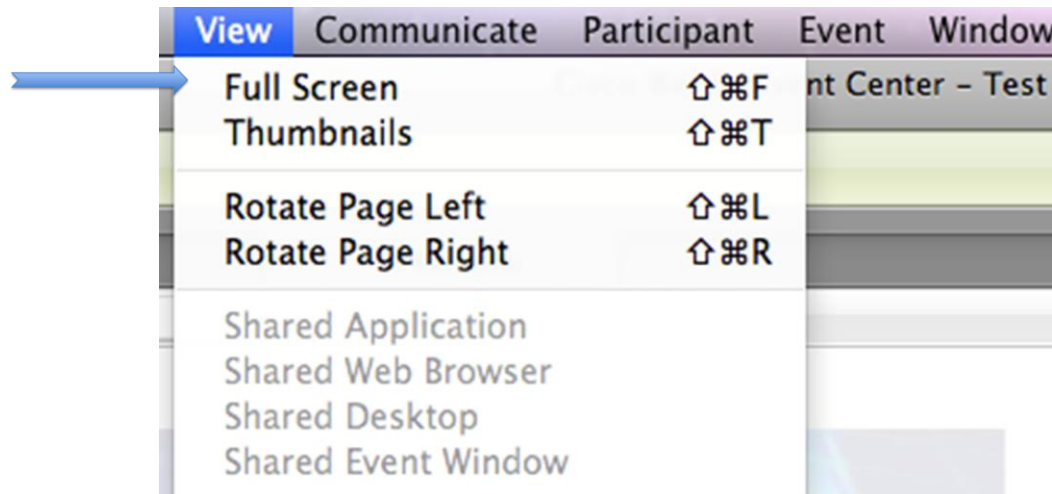


EMC
COMPLIANCE
IN BRIC
COUNTRIES:
BRAZIL, RUSSIA,
INDIA, & CHINA
MARCH 14, 2019



Webinar info & tips

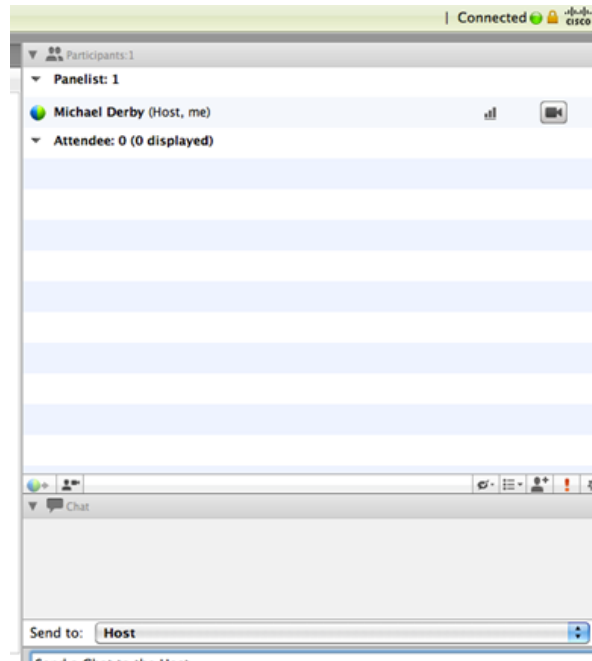
- Attendees sound is muted
- A recording of this event is underway
- Training Certificate sent to all attendees (e-cert)
- Full-Screen View





Webinar info & tips

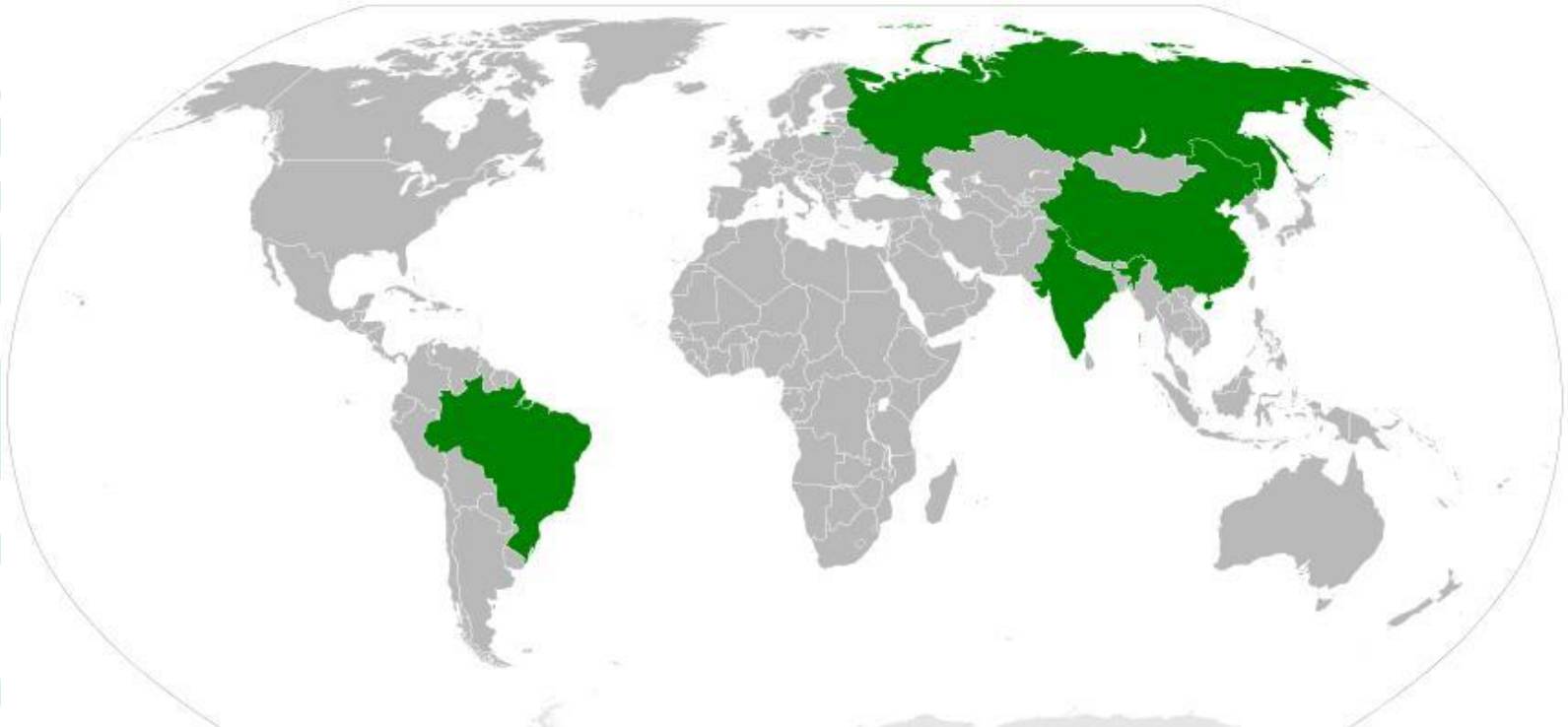
Send “Chat” or “Q&A” Comments





BRIC Overview

Combined Population of 2.97 Billion



- **40% of the World's Population!**
 - July 2015 est., source: CIA The World Factbook online
 - www.cia.gov/library/publications/the-world-factbook

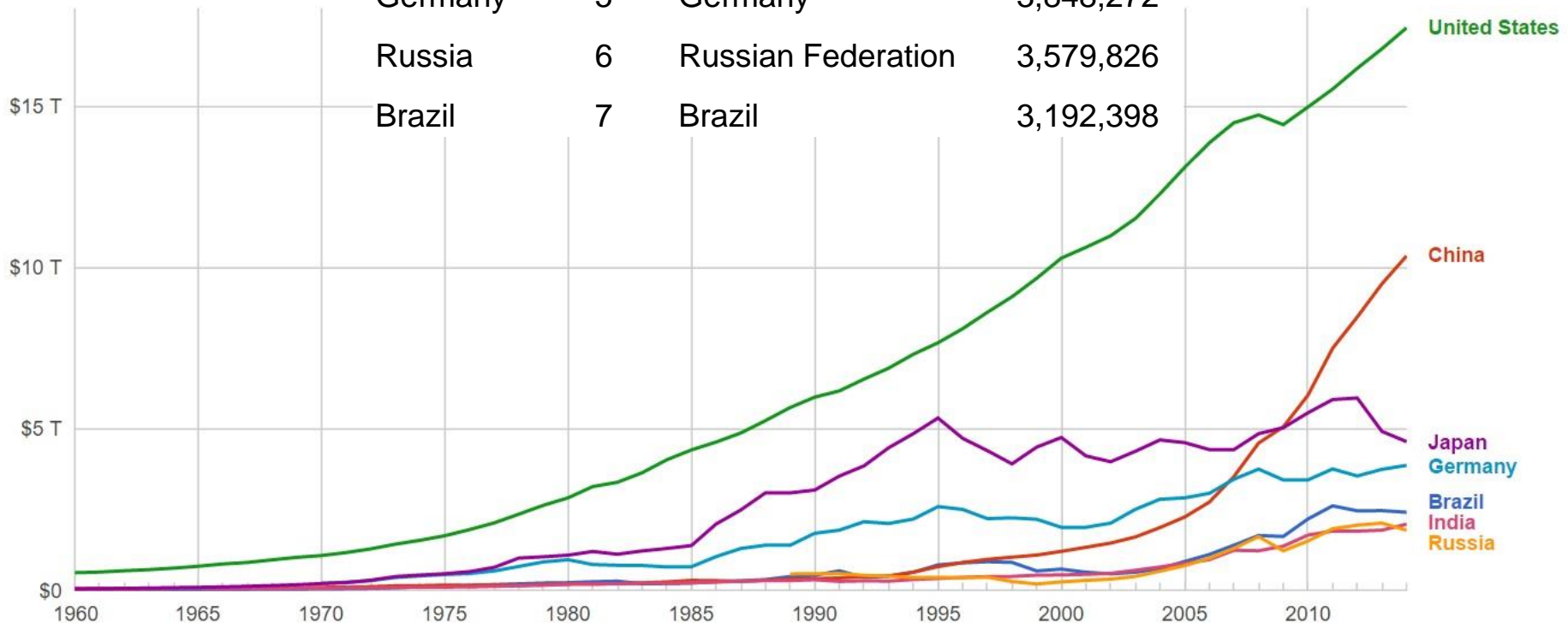


BRIC Overview

Gross Domestic Product 2015 (source WTO)

Country	Ranking	Economy	Millions of \$
China	1	China	19,524,348
USA	2	United States	17,946,996
India	3	India	7,982,528
Japan	4	Japan	4,738,294
Germany	5	Germany	3,848,272
Russia	6	Russian Federation	3,579,826
Brazil	7	Brazil	3,192,398

Gross Domestic Product





BRIC Overview

Why focus on BRIC Countries?

- The “Big Four” currently rank in the top 7 of world economies (based on GDP)
- Leaders in the shift in global economic power away from the developed G7 economies and towards the developing world
- It is estimated that BRIC economies will overtake G7 economies by 2027
- Goldman Sachs predicts that by 2050 the combined BRIC economies could eclipse the combined economies of the current richest countries of the world.



BRAZIL EMC COMPLIANCE & CERTIFICATION



BRAZIL Regulatory Organizations

- ▶ INMETRO – Brazil's National Institute of Metrology, Quality and Technology
- ▶ INMETRO was created in December 1973 to support Brazilian enterprises, to increase their productivity and the quality of goods and services
- ▶ Tasked with maintaining the national standards
- ▶ The main Accreditation Body for Brazil certification bodies and laboratories
- ▶ Brazil's national developer of conformity assessment programs
- ▶ Responsible for Brazil's Technical Barriers to Trade (TBT) WTO program, (like US NIST – Notify US)





INMETRO Mandatory Certification List (80 products), including electrical/electronics

- Medical equipment
- Hazardous location equipment
- Electrical cords and cables
- Protective devices (circuit breakers and ballasts)
- Switches, plugs and sockets
- Equipment for gas systems (pressure regulators and hoses)
- Voltage stabilizer ...

Plus another ~ 70 products from Baby Seats to Auto Glass



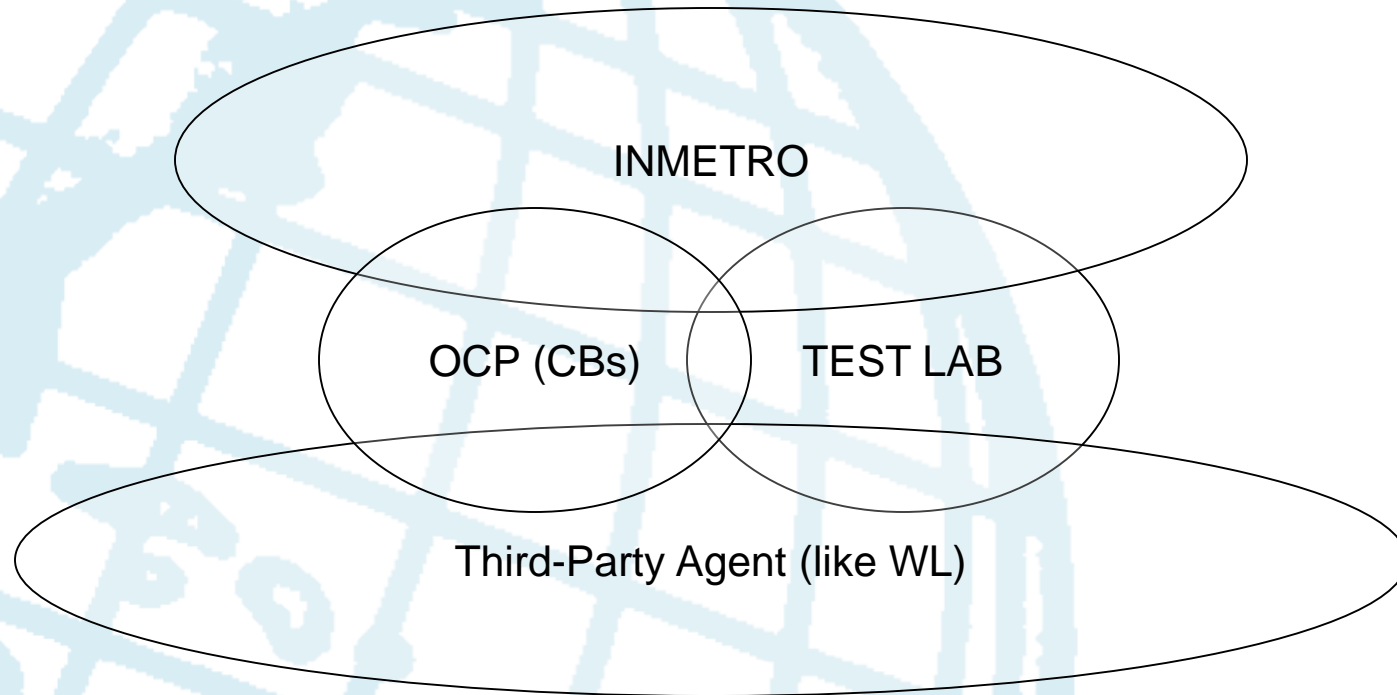
INMETRO Voluntary Certification List (87 products),

including

- Consumer electronics
- IT equipment
- Household appliances
- Luminaries and its components
- Electrical appliances
- Photovoltaic equipment and systems



ORGANIZATION STRUCTURE



In order to obtain INMETRO product certification, it is necessary to interface with a Brazilian certification body or OCP (Product Certification Body) accredited by INMETRO

INMETRO has accredited 51 OCP

During certification, product testing must be performed by a laboratory from RBLE (Brazilian network of testing laboratories) which are accredited by INMETRO

RBLE has 372 testing laboratories



Required INMETRO Marking Label



Identification of type of accreditation

Type of Accreditation Code (i.e. OCP)

OCP Accredited Number

ANATEL



ANATEL – National Telecommunication Agency

- Promotes development of Brazil's telecommunication infrastructure by exercising standardization, homologation and surveillance.

History

- ▶ Established in July 1997 according to Law 9.472
- ▶ Resolution 242 in November 2000 is the general regulation regarding certification of telecommunication products
- ▶ Resolution 323 in November 2002 complements Resolution 242
- ▶ Instrumento de Gestão 01 (IG01) defines the priority of selected test labs during the Anatel certification process.



OCD & TEST LABS



OCD:

Organismo de Certificacao Designado
(Designated Certification Body, CB)

In order to obtain ANATEL product certification, it is necessary to interface with a Brazilian certification body or OCD accredited by ANATEL

There are 13 accredited OCD's

Priorities of Test Laboratories

According to IG01, local test labs have precedence with priorities below:

- 1) Local Brazilian test labs accredited by INMETRO
- 2) Local third Party test labs evaluated by OCD
- 3) Local non-third party test labs evaluated by OCD
- 4) Foreign labs recognized by ILAC

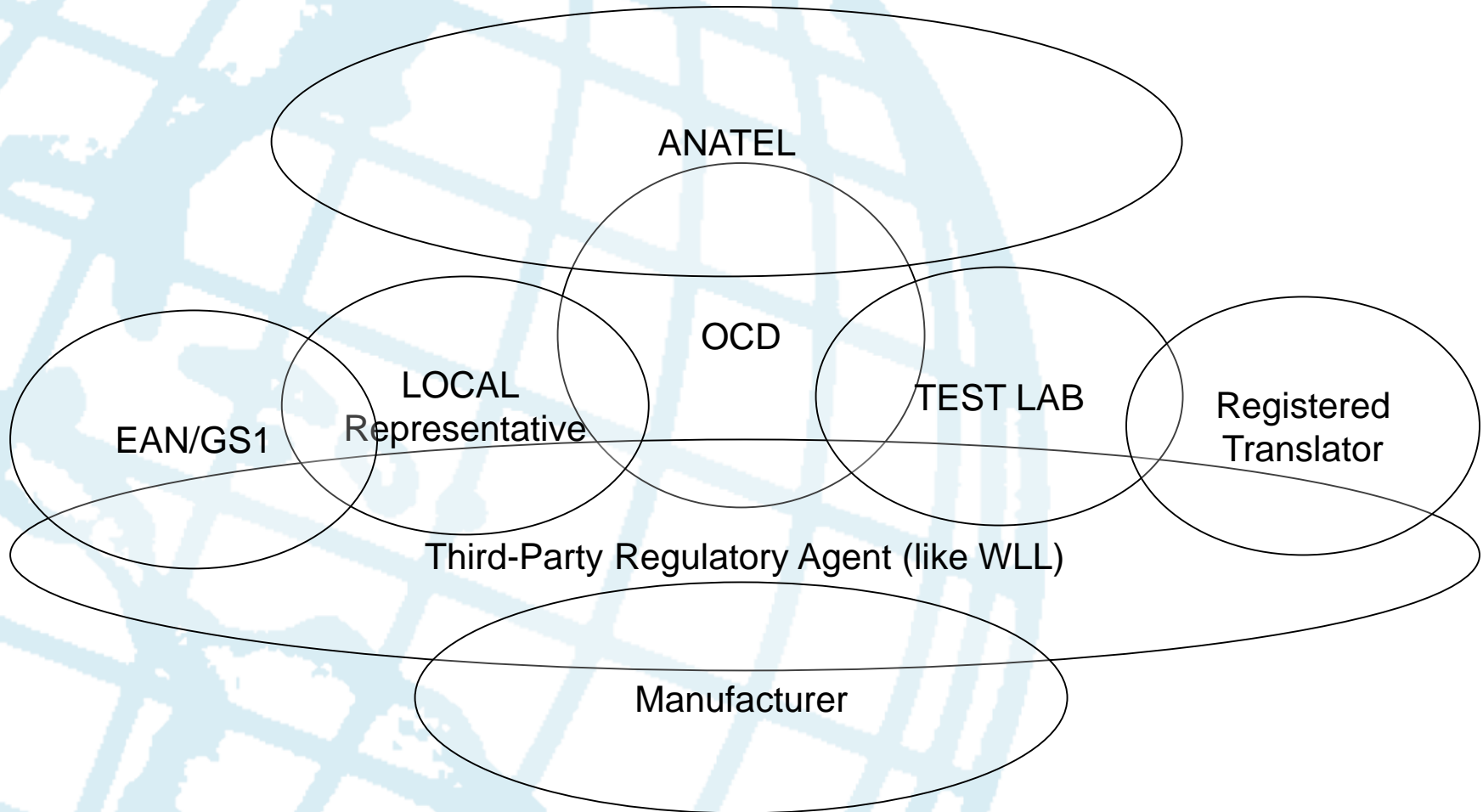
Test Laboratories

During certification, product testing must be performed by a laboratory accredited by INMETRO per SBAC (Brazilian System of Conformity Assessment)

There are 20 accredited laboratories



PARTICIPANT PARTIES



REPÚBLICA FEDERATIVA DO BRASIL
AGÊNCIA NACIONAL DE TELECOMUNICAÇÕES.

Certificado de Homologação (Intransferível)

Nº 0005-11-G691

Válidez: Indefinida

Emissão: 20/03/2011

Fabricante:

ANTEN TELEGRÁFICA S.A
RUA INGRIDIA S/A JARDIM EUROPA
04550-000 SÃO PAULO/SP

Outras Unidades Fabric:

VISM SISTEMAS ELETRÔNICOS S/A
AGÊNCIA DE COMÉRCIO PATO BRANCO 193 RUA JOÃO
VIGANO NETO CENTRO
05531-970 - PATO BRANCO - PR
VISM SISTEMAS ELETRÔNICOS S/A
RUA DO SENADOR TROCIADRE INDUSTRIAL
01790-000 - CURITIBA - PR

VISM SISTEMAS ELETRÔNICOS S/A
RUA JOSÉ BATISTA DOS SANTOS 702 CIO
81200-000 - CURITIBA - PR

Este documento homologa, nos termos do Regulamento para Certificação e Homologação de Produtos para Telecomunicações, aprovado pela Resolução Anatel nº 242, de 30 de novembro de 2005, o Certificado de Homologação nº 04873/10, emitido pelo CGO - IBRACE - Instituto Brasileiro de Certificação. Esta homologação é específica para o produto aqui identificado e é válida somente para o produto a seguir discriminado, cuja utilização deve observar as condições técnicas coletadas na regulamentação aplicável(s) ao equipamento(s) a que se destina.

Tipo:

Transceptor de Radiação Restrita - Categoria II

Modelo(s):

CSA3100

Serviço/Aplicação:

Radiorcomunicação de Radiação Restrita

Características Técnicas Básicas:

Faixa de Frequências Tx (MHz)	Potência Máxima (W)	Frequência de Emissão	Tecnologias	Tipo de Modulação
2400,0 a 2483,5	0,010498	370070	SALTO EM FREQUÊNCIA	GFSK
2400,0 a 2483,5	0,010331	411670	SALTO EM FREQUÊNCIA	8PSK, QPSK, GFSK
2400,0 a 2483,5	0,010331	111670	SELECÇÃO DE FREQUÊNCIA	8PSK, QPSK, GFSK
2400,0 a 2483,5	0,010331	171670	SELECÇÃO DE FREQUÊNCIA	8PSK, QPSK, GFSK

Taxa máxima de transmissão: 180 kbit/s (300 kbit/s) para 370070 e 411670; 540 kbit/s (500 kbit/s) para 111670 e 171670.
Código de SAR não aplicável ao equipamento.

Observações:

Este(s) modelo(s) code(int) ser comercializado(s) nas seguintes configurações: CSA3100B e CSA3100W

Nas instalações do produto, devem ser observadas as condições de uso conforme estabelecido no Regulamento sobre Equipamentos de Radiorcomunicação de Radiação Restrita.

Condição obrigatória do fabricante do produto no Brasil providenciar a identificação do produto homologado, nos termos do art. 39 do Regulamento anexo à Resolução Anatel nº 242, em todas as unidades comercializadas, antes de sua efetiva distribuição ao mercado, assim como observar manter as características técnicas que fundamentam a certificação original.

As informações constantes deste certificado de homologação podem ser confirmadas no SGCH - Sistema de Gestão de Certificação e Homologação, disponível no portal da Anatel: (www.anatel.gov.br).

- Issued by OCD
- May have expiration date depending on product
- Typically issued to the manufacturer (owner of design)



ANATEL PRODUCT CATEGORY I

Category I: Terminal equipment intended for use by the general public for purposes of accessing collective interest telecommunications services

- AC/DC adapters used with cellphones
 - UMTS devices
 - Cordless phones
 - Wired phones
 - Lithium battery for cell phone
 - Cable/Cord (flexible, coaxial, UTP, STP)
 - Fax-modem machine
 - PABX
 - etc
-
- ▶ Annual maintenance. Certificate is valid for 1 year
 - ▶ Requires product testing and evaluation of factory quality system



ANATEL PRODUCT CATEGORY II

Category II: Equipment not covered by the definition of Category I products and that make use of the frequency spectrum for the transmission of signals (wireless/radio)

- Antennas
 - Amplifiers
 - Transmitters
 - Transceivers
 - Radio Frequency Devices (Wi-Fi, BT, RFID, radar, etc.)
-
- ▶ Bi-annual maintenance: Certificate is valid for 2 years
 - ▶ Requires product testing



ANATEL PRODUCT CATEGORY III

Category III: Equipment not contained in the definitions of Category I and II and that will have interoperability with telecommunication network

- Cables (coaxial, hybrid, fiber optic)
- Multiplexers
- Data network equipment
- Switches, Hubs, Gateways
- Interconnection Networks Equipment
- Equipments with E1, E3, STM, FXO, FXS
- etc

- ▶ Certification is valid until the device is modified or regulation changes
- ▶ Requires product testing



EXAMPLE PROJECT SCHEDULE

ANATEL for Handheld Computer and Power Adapter	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Test setup verification and sample shipment	■									
Testing (EMC + Safety + RF + Functional + SAR)		■	■	■						
Create test reports				■						
WL prepares application package	■	■	■	■	■					
OCD reviews application package, test reports and issue OCD tech cert for Handheld Computer and Power Adapter					■	■	■			
ANATEL reviews and issue Homologation certificate for Handheld Computer and Power Adapter							■	■	■	■

Historically, ANATEL takes about 4 weeks to homologate

Total lead time is 8-10 weeks



ANATEL STANDARDS (examples)

Similar to USA/EU Standards:

- EMC: ANATEL No. 442 (~CISPR 22 & 24)
- Product Safety: ANATEL No. 529 (~IEC 60950)
- Wi-Fi/Bluetooth: ANATEL No. 506, Sec. IX (~FCC 15.247)
- SAR: ANATEL No. 533
- GSM: ETSI TS 151 010-1
- UMTS: ETSI TS 134-121-1



Brazil SAR Resolution 533

Portable terminal stations: transmitting stations characterized by the portability of the equipment utilized and whose radiant structures, when in use, **are located less than 20 cm from the body of the user.**

Low Power Portable Terminal Stations: portable terminal station where the average power emitted in an average of 6 (six) minutes is equal or less than 20 mW and the peak power emitted is less than 20W.

Resolution 533 is applicable when equipment meet all requirements below *simultaneously*:

- portable
- operate close to human body, with distance no greater than 20 cm
- operate with frequency between 300MHz and 6 GHz
- operate with average output power greater than 20mW, measured in a time average of 6min; or peak power emitted is greater than 20W



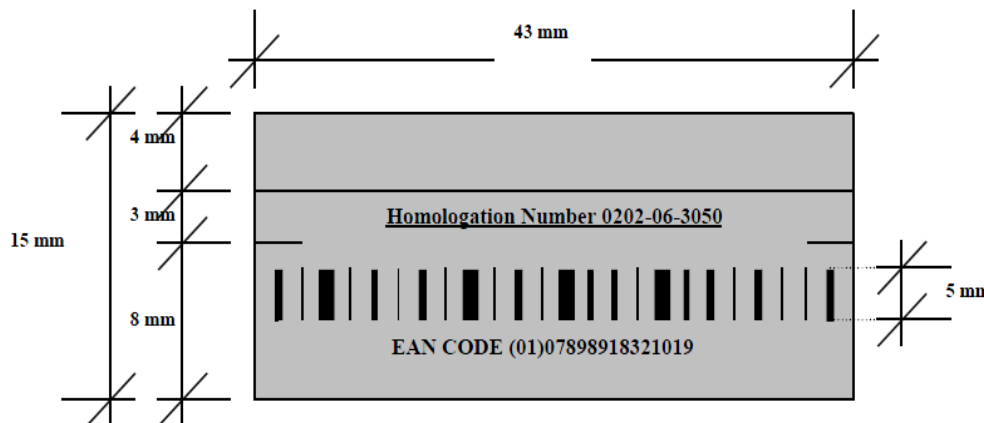
ANATEL LABEL/MARKING

Product label must contain:

- ANATEL homologation number
- ANATEL logo
- EAN bar code
- Trademark
- Model Number
- Compliance Warning statements



Anatel Label – Minimum Dimensions



Note:

- EAN bar code must meet GS1-128

- ANATEL homologation number breakdown

HHHH: number of ANATEL approval

AA: year

FFFF: identification of local representative



RUSSIA/CUSTOMS UNION EMC COMPLIANCE & CERTIFICATION



Introduction



Russia

**Technical
Reglament
(TR-CU)
Certification**

**Hygienic
Conclusion**

**Svyaz
Certification**

**Product
Safety**

**Electromagnetic
Compatibility**

**Sanitary
Regulation**

**Electrical &
Radio
Characteristics**

The TR-CU Program



- ❑ In Russia, the former GOST certification system was withdrawn in February 2013, and replaced by the new Customs Union (CU) regime.
- ❑ Existing certificates issued prior to February 2013 (including GOST) were “grandfathered” until March 2015, assuming the products are unchanged from the original certification.
- ❑ 5-for-1 Certification: Obtain TR-CU Certification, and you gain market access for your product in Russia, Armenia, Belarus, Kazakhstan, & Kyrgyzstan.
 - ❑ Although these additional countries have very small markets
- ❑ A few more countries may join over time, such as Tajikistan & Uzbekistan. (former USSR, non-EU)

TR-CU Certificate



Introduction

TR-CU Certification

- General Information for TR-CU
- Product Categories
- Required Documents and Other Information

Hygienic Certification

- General Information for Hygienic (safety) Certification
- Required Documents and Product Categories
- Organization

Svyaz Certification

- General Information for Svyaz Certification
- Customs

Process Flow

- Radio Product Certification Process

Conclusion

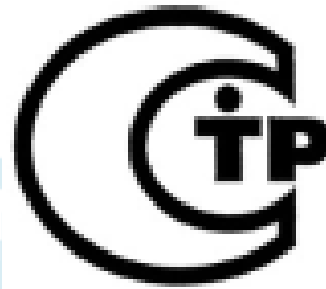
TR-CU Certificate



TR-CU Certification

TR Mark of
Conformity

Figure 2



CU Mark of
Conformity



- ☐ Almost any electronic product to be imported to Russia requires the new TR-CU Certification to assure compliance with existing **safety, technical, and quality standards.**
- ☐ **TR-CU logos** are as above, and required on the product
- ☐ **The identification code of certification body** should be shown above the logo.
- ☐ **The initial grant of TR-CU Certification is valid for terms of 1 to 5 years.**



TR-CU Certificate

Product Categories

- ☐ Information Technology Equipment (ITE)
- ☐ Audio/Video Equipment
- ☐ Household Appliances
- ☐ Wireless and Wired Telecommunication Equipment
- ☐ Scientific Instrumentation & Measurement Equipment
- ☐ Medical Equipment



Hygienic Certificate



Introduction

TR-CU Certification

- General Information for TR-CU Application
- Required Documents and Other Information

Hygienic Certification

- General Information for Hygienic Application
- Product Categories subject to Hygienic Conclusion
- Organization

Svyaz Certification

- General Information for Svyaz Certification
- Customs

Process Flow

- Radio Product Certification Process

Conclusion

Hygienic Certificate



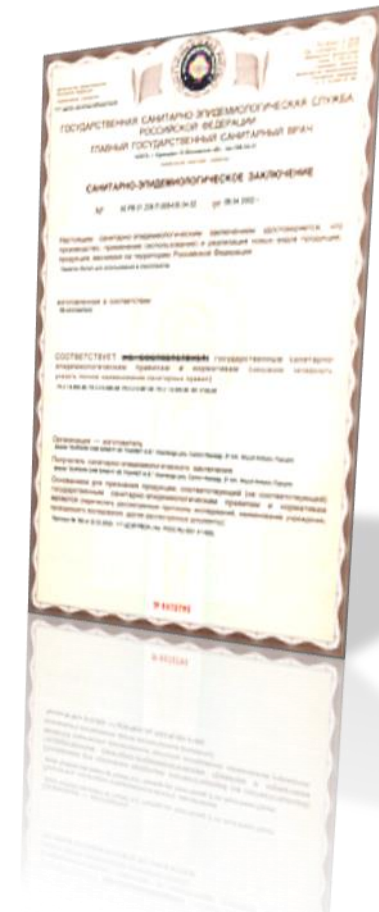
- ❑ The Hygienic Certification also called the ***Sanitary-Epidemiological Conclusion Certificate***.
- ❑ The hygienic certificate confirms **conformity of products and services to the sanitary norms** and **strict observance of the established rules** in the process of manufacture, storage, transportation and the sale of products and services.



Hygienic Certificate

Product Categories (partial list)

- ☐ Products that produce noise / vibration
 - Copy Machines
 - Printers
 - Air-conditioners
- ☐ Individual protection means (PPE)
- ☐ Tobacco products and raw materials
- ☐ Products emitting X-radiation
 - Video Monitors
 - Television Receivers
- ☐ Products emitting microwave radiation
 - Cellular Phones
 - Wireless Telephones
 - Computer Components
 - Laptop Computers



Hygienic Certificate



- ❑ Issued only by the Russian Federal Service for Supervision in the Area of Consumer Rights and Welfare Protection or Rospotrebnadzor (formerly Gossanepidnadzor).
- ❑ Two independent organizations, both part of Rospotrebnadzor, are involved in hygienic certification:
 - Center of Hygienic and Epidemiology
 - Test protocol analysis and other documentation
 - Territorial Office of Rospotrebnadzor
 - Issues final certificate based on the expert conclusion drawn by the Center of Hygiene and Epidemiology provided that the product conforms the compliance of the goods to the Russian Hygienic Standard.
- ❑ Valid for One year

Svyaz Certificate



Introduction

TR-CU Certification

- General Information for TR-CU Application
- Required Documents and Other Information

Hygienic Certification

- General Information for Hygienic Application
- Product Categories subject to Hygienic Conclusion
- Organization

Svyaz Certification

- General Information for Svyaz Certification
- Customs

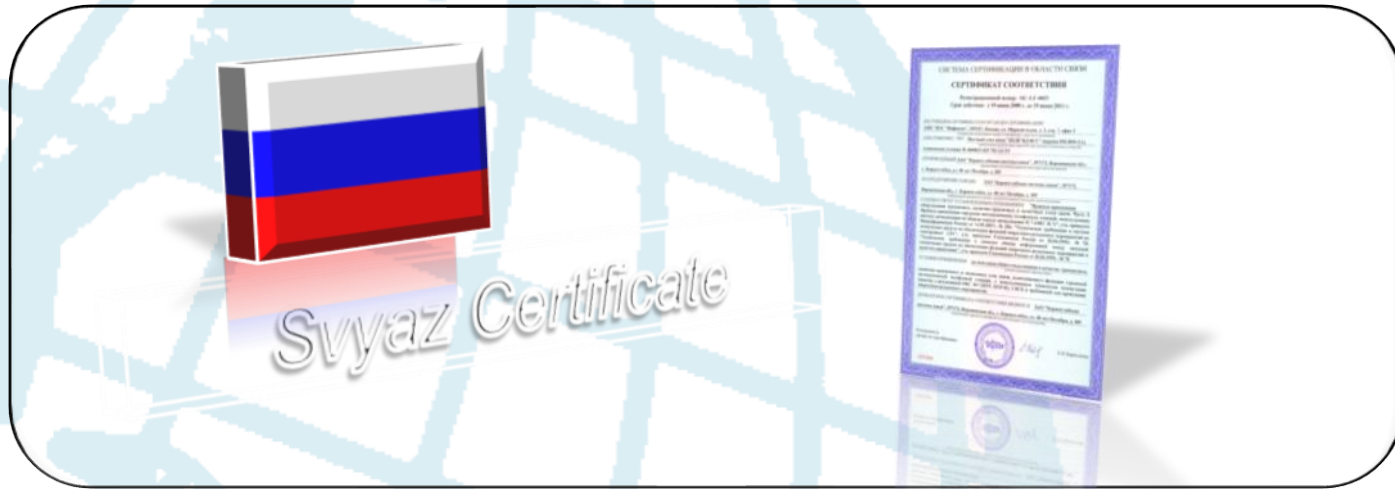
Process Flow

- Radio Product Certification Process

Conclusion



Svyaz Certificate



- ☐ *Applies to Telecommunications Equipment*
- ☐ *All technical means of the integrated communications networks (both shared and corporate) are subject to mandatory certification.*

- *Article 16 of the Russian Federation Law "On Communications"*



Svyaz Certificate

Application Submission



The Certification Department of Goskomsvyaz
Technical Review

Performs a preliminary analysis to determine if the equipment is compatible with the telecommunications technology currently used in Russia or not



Testing Equipments (Type & Quality Assurance)

Lab A

Lab B



Grant of Svyaz Certificate (Valid for 3 years)



Svyaz Certificate

Customs Process

Start the process of customs clearance before the products arrive in Russia

- ☐ Regardless of secured product certifications, Customs clearance of any product imported to Russia is a very challenging process.
- ☐ Customs duty
 - For telecommunications equipment, customs duty varies from 5% to 20% depending on its purpose.
 - Calculated as a Percentage of the customs value of goods
- ☐ Value Added Tax
 - 20% of a percentage of the customs value + the customs duty



Process Flow

Introduction

TR-CU Certification

- General Information for TR-CU Application
- Required Documents and Other Information

***Hygienic
Certification***

- General Information for Hygienic Application
- Product Categories subject to Hygienic Conclusion
- Organization

Svyaz Certification

- General Information for Svyaz Certification
- Customs

Process Flow

- Radio Product Certification Process

Conclusion



Certification Flow





INDIA EMC COMPLIANCE & CERTIFICATION

INDIA AGENDA



INTRODUCTION

WPC

TEC

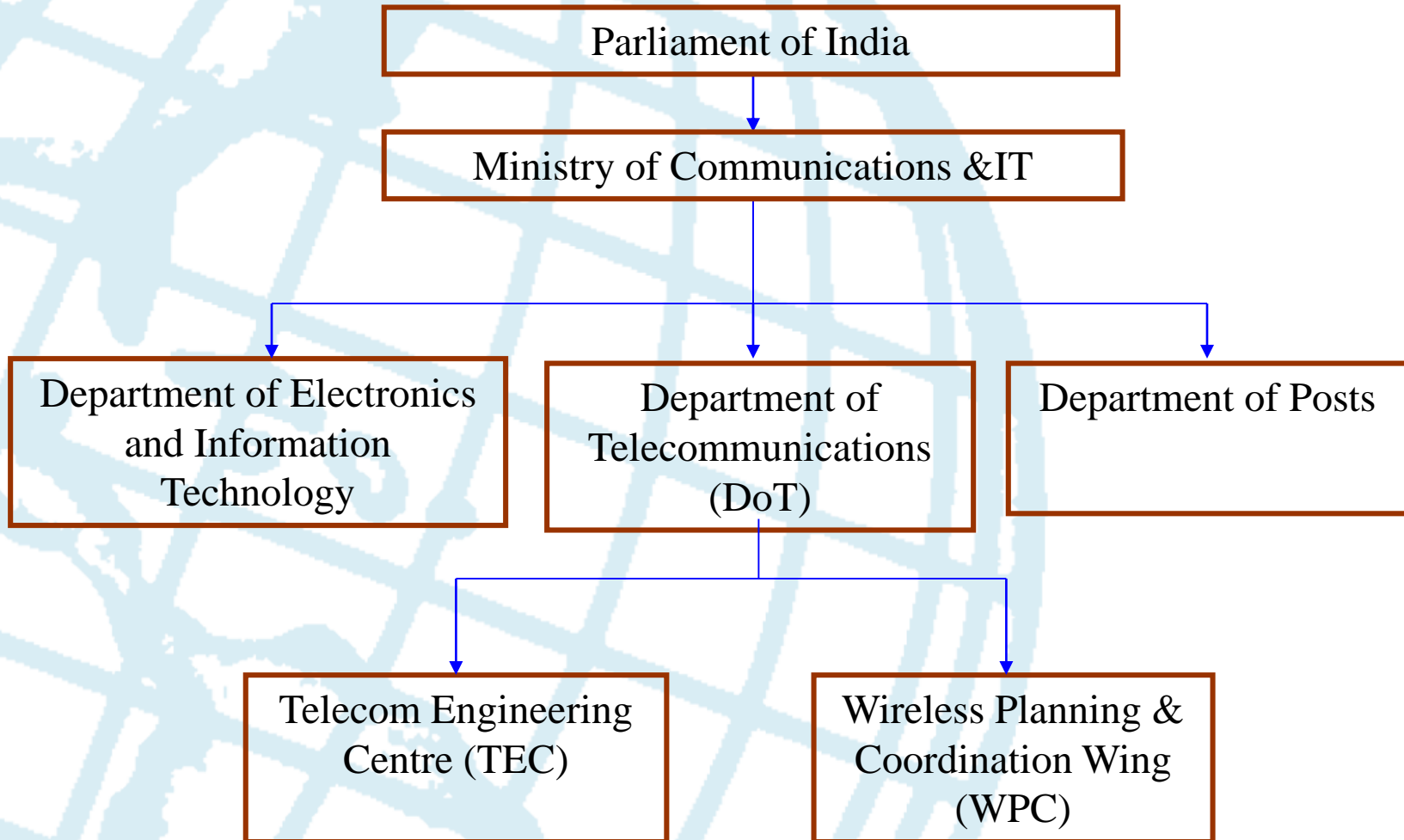
MT&CTE



सत्यमेव जयते



INDIA AUTHORITIES





WIRELESS PLANNING & COORDINATION WING

WIRELESS PLANNING & COORDINATION (WPC)

- ▶ National Radio Regulatory Authority
- ▶ Created in 1952
- ▶ Responsible for Frequency Spectrum Management
- ▶ Exercises the statutory functions of the Central Government and issues licenses to establish, maintain and operate wireless stations



WPC is divided into three major sections:

- 1) Licensing and Regulation (LR)
- 2) New Technology Group (NTG)
- 3) Standing Advisory Committee on Radio Frequency Allocation (SACFA)



WPC Certification Schemes

In India, radio frequencies for wireless communications are defined between 3 kHz and 3000 GHz.



There are two certification schemes:

- 1) License
 - 1a) Network License (35 types)
 - 1b) Non-Network License (9 types)
- 2) Equipment Type Approval (ETA)



WPC Network License

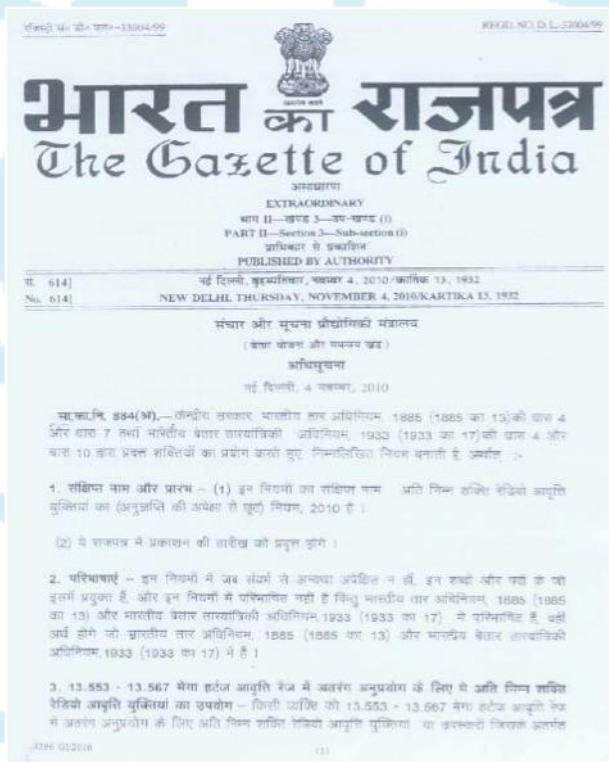
Network License to operate (35 types):

- 1) Beacon
- 2) CORDECT/CDMA
- 3) Captive Radio paging
- 4) Wide Area Radio Paging
- 5) Captive Radio Trunking
- 6) Public Mobile Radio Trunking Service (PMRTS)
- 7) Captive VSAT
- 8) Commercial VSAT
- 9) GSM
- 10) Earth station for foreign mission
- 11) Experimental
- 12) FM Community Broadcast
- 13) FM Broadcast
- 14) SW Broadcast
- 15) Terrestrial Broadcast
- 16) Fixed/Mobile-HF/VHF/UHF-Land Based
- 17) Fixed/Mobile-HF/VHF/UHF-Land Based (additional category)
- 18) HF/VHF for Foreign Mission
- 19) MW Broadcast
- 20) MW link for Foreign Mission
- 21) MW link for Cellular(GSM)
- 22) MW link for WLL(CDMA)
- 23) MW link for Point to Point Communication
- 24) MW link for Point to Multipoint (for ISP, ILD, NLD)
- 25) MW link for wide area Radio Paging
- 26) Radar
- 27) Remote Controller
- 28) SCADA
- 29) Satellite Broadcast
- 30) Satellite Network-Gateway for ISP, ILD, NLD
- 31) Satellite Network-Receive only Earth Station
- 32) Satellite News Gathering
- 33) Shot Range UHF Hand Held Radio (USR)
- 34) Spread Spectrum
- 35) TV Receive Only Dish Antenna (TVRO) for Foreign Mission



WPC ETA

In order to meet the market's need and to match the international market trends, WPC amended its regulations such that certain frequency bands have been de-regulated. WPC calls them “de-licensed” bands.



WPC no longer controls products that fall in the “de-licensed” category.

In other words, wireless devices are exempt from licenses if they fall under “de-licensed” frequency band and meets the specified RF power limit, but they must obtain ETA approvals.

TELECOMMUNICATION ENGINEERING CENTRE



TEC Functions:

- Technical body representing the interests of DoT and Indian Government
- Specification of common standards for telecom network equipment, services, and interoperability
- Generic Requirements (GR) & Interface Requirements (IR)
- Issues Interface Approvals, Certificate of Approvals, Service Approvals & Type Approvals
- Formulation of Standards and Fundamental Technical Plans
- Interact with multilateral agencies for standardization (e.g. ETSI, ITU) for standardization
- Develops expertise to incorporate the latest technologies and R & D
- Provide technical support to DoT, and technical advice to TRAI & TDSAT
- Coordinates with C-DOT on the technological developments in the Telecom Sector for policy planning by DOT



TEC approval types and requirements

GOVERNMENT OF INDIA
TELECOMMUNICATION ENGINEERING CENTRE
(Department of Telecommunications)
Khurshid Lal Bhaswan, Janpath, New Delhi-110001



INTERFACE APPROVAL CERTIFICATE

No.: TEC/WR/1/PST-01/01/032.MAR.12 Date: 05th March, 2012

This is to certify that the product described below conforms to the TEC specification (IR) number indicated below and is approved for interconnection to the Indian telecom network. This certificate is issued subject to the terms and conditions stipulated overleaf.

PRODUCT	Terminal for Connecting to PSTN	MODEL No.	Converge Pro 880TA
MANUFACTURER	M/s ClearOne Communications Inc. 3225 Wiley Post Way, Suite 200, Salt Lake City, Utah, 84116, USA.	(SOFTWARE VER. IF ANY)	3.0.6.15
TEC SPECIFICATION NO. (IR No.)	IR/PST-01/01/SEP 2005 (Terminal for Connecting to PSTN)		
ISSUED TO (TRADER)	M/s Satyam Technical Solutions Pvt. Ltd., 6/19, Jagat Industrial Complex, V.N. Purav Marg, Son (E), Munhai-400 622.	VALID UP TO	17 th August, 2014
REMARKS	Facilities and features other than the specified one in IR have not been checked and certified.		

Cont.-2

TEC issues the following certificates:

- ▶ Interface Approval
- ▶ Type Approval
- ▶ Certificate Approval
- ▶ Technology Approval

There are four types of technical requirements:

Generic Requirements (GR)	526
Interface Requirements (IR)	52
Service Requirements (SR)	24
Standards Documents (SD)	11
Total	613



TEC approval types

Interface Approval

Interface Approval is issued against Interface Requirements (IR) standards. Interface Approval is intended for products to be sold in general market for public use and connected to the public network services. Product examples are modems, Fax, ISDN terminals, etc.

Type Approval

Type approval is issued against Generic Requirement (GR). Type Approval is intended for products that will be procured by the DOT or India's former government carriers. Product examples are cellular towers, cables, exchange switch, etc. Type Approval requires in-country telecom testing, but may also require environmental and field testing. Infrastructure Assessment of the applicant's test and repair facilities in India are also a requirement.

Technology Approval

Technology Approval is issued against Generic Requirement (GR). Technology Approval is granted to R&D organization for development of equipment for transfer of technology to other manufacturers. The testing of the equipment is done by the specialized Core Group at TEC (HQ) in association with RTEC.

Certificate of Approval

Certificate of Approval is issued for the product for which the IR/GR/SD standards do not exist. Certificate of Approval is issued against applicant's own specification.

MANDATORY TESTING & CERTIFICATION OF TELECOMMUNICATION EQUIPMENT (MT&CTE) (2017)



- The scope of certification would cover all types of telecom equipment to be
- sold in India or to be connected to Indian telecom network after the date of
- effect of this procedure.



MANDATORY TESTING & CERTIFICATION OF TELECOMMUNICATION EQUIPMENT (MT&CTE) (2017)

- i. EMI/EMC : As prescribed by TEC
- ii. Safety : As prescribed by TEC
- iii. Technical requirements: As prescribed by TEC
- iv. Other requirements: As notified by TEC/DoT/any Government Agency from time to time
- v. Security Requirements: As per notification issued by DoT.



MTCTE

Was to be mandated by 1 March 2019...

Government of India
Ministry of Communications
Department Of Telecommunications
Telecommunication Engineering Centre
Khurshidlal Bhawan, Janpath, New Delhi-110001

No. TEC/10/2018-TC

New Delhi, the 12th March, 2019

NOTIFICATION

Subject: Mandatory Certification of Telecom Equipment

Attention is invited to this office notification of even number dated 27th September 2018, wherein it was notified that telecom equipment specified in para 1 of the said order, imported or sold on or after 1.1.2019, and telecom equipment specified in para 2 of the said order, imported or sold on or after 1.4.2019, were to be subjected to Mandatory Testing and Certification of Telecom equipment (MTCTE), under provisions of Indian Telegraph (Amendment) Rules 2017. Extension of the date mentioned in para 1 of the said order was under consideration of Government, as was notified vide notification of even number dated 31st December 2018.

2. It has now been decided that certification of all telecom equipment under MTCTE shall be mandatory with effect from 1st August 2019.
3. This issues with the approval of competent authority.


(Shakeel Ahmad) 12.3.19

Deputy Director General (TC)



INDIA SAR FOR MOBILE HANDSETS

Mobile Handsets

- India has adopted the most stringent FCC norms for mobile handsets.
- All the new design of mobile handsets shall comply with the SAR values of 1.6 W/kg averaged over 1 gram of human tissue with effective date of Sept 1st 2012.
- The mobile handsets with existing designs which are compliant with 2.0 W/kg averaged over 10 gram of human tissue, continue to co-exist up to August 31st, 2013.
- From Sept 1st 2013, only the mobile handsets with revised SAR value of 1.6 W/kg would be permitted to be manufactured or imported in India.
- SAR value information shall be displayed on the mobile handsets as done with IMEI (International Mobile Equipment Identity). The information on SAR values to be made available to the consumer at the point of sale. The SAR information shall be available on the manufacturer's web site & in the handset's manual.



CHINA EMC COMPLIANCE & CERTIFICATION

CERTIFICATIONS IN CHINA



SRRC



CCC



MPE



CQC



NAL



Golden
Sun Mark





CERTIFICATIONS IN CHINA

❑ Three Major China Approvals:

China Compulsory Certification (CCC)

MII Network Access License (NAL)

SRRC Radio Type Approval (RTA)



CERTIFICATIONS IN CHINA

In addition to CCC certification, other certifications may also apply, SRRC, MII, MPE, Golden Sun Mark, etc.

EXAMPLE:

Multiple functional Fax / Printer Machine with Bluetooth connection with other device

- SRRC for bluetooth
- MII for Fax functionality
- CCC





CCC MARK ORGANIZATIONS

CNCA:

China Certification and Accreditation
Administration

CNAB:

China Accreditation
Board for Certifiers
9 Accredited Bodies

CNAL:

China
Accreditation
Board for
Laboratories

882 Labs
Accredited

CNAT:

China Auditor
and Training
Accreditation
Board



CCC MARK CERTIFICATION

- HS Code of Products Required for CCC mark
 - The first issue of CNCA CCC Implementation Rules covers 19 categories, 132 types of products
- With the update of HS code, total of 22 categories, 159 types of products are now required under CCC certification system,
 - Wireless LAN is now mandatory for CCC Mark Certification
- Almost everything else not in the CCC list falls into CQC Certification



CCC MARK CERTIFICATION

Updated HS code of products required for CCC Mark

Category	Name of the product category	No of products
1	<i>Electric Wires and Cables</i>	5
2	<i>Connectors such as Plugs and Sockets for Household and Industry Appliance</i>	6
3	<i>Low-voltage Circuit Switches and Protective Devices</i>	9
4	<i>Small-Power Motor</i>	1
5	<i>Electric Tools</i>	16
6	<i>Electric welding machines</i>	15
7	<i>Household and Similar Electrical Appliances</i>	18
8	<i>Audio & Video products</i>	16
9	<i>Information Technology Equipments</i>	12
10	<i>Lighting Electrical Appliances</i>	2
11	<i>Motor Vehicle Products</i>	4
12	<i>Tire Products</i>	2
13	<i>Safety Windows for Car and Buildings</i>	4
14	<i>Rubber Products</i>	1
15	<i>Equipments for Crop Protection Purpose</i>	3
16	<i>Telecommunication Terminal Equipments</i>	9
17	<i>Medical Equipment</i>	12
18	<i>Fire fighting Products</i>	3
19	<i>Intruder Alarm Systems for Security Purpose</i>	1
20	Wireless Local Area Networks	40
21	Decoration materials for Construction Industry e.g. Wallpaper	2
22	Chemistries Product for Carpentry	1



CCC MARK CERTIFICATION

Manufacturers are not allowed to print CCC Mark logo without permission from CNCA

- Purchase Standard CCC Mark Logo
- Apply for CNCA approval on printing CCC mark logo



Purchase Limited
Number of CCC
Mark



Unlimited
Number of Label
Printing



CHINA PRODUCT LABELS

Model Number

Company Name

Product Name In Chinese

Model
型号:
型號:

Serial No.
序列号:
序號: @1

自动电压范围 Auto Voltage Range
自動電壓範圍
许可的输入电压 Input Voltage :100-240 VAC
許可的輸入電壓
最大工作电流 Current :5A
最大工作電流
频率 Frequency
頻率 :47-63 Hz

标签打印机
標籤打印機

CCC SAE

6

MADE IN CHINA

中国制造
中國製造

Product Specification / Rating

Country of Origin In Chinese





CCC MARK FACTORY INSPECTION

Factory

- Both applications can be filed simultaneously.
- If there are more than one factories to be certified, the first factory must be certified to get the additional factory certified.

Initial Factory Inspection (Ten aspects to be inspected)

- Responsibilities and Resources
- Documents and Records
- Purchasing and Receiving Inspection
- Routine Tests and Verification Tests
- Inspection and Test Equipment
- Control of Non-conforming Products
- Internal Audit
- Changes to Certified Product
- Packing, Handling, and Storage

Annual Follow-up Inspection



CCC MARK: GB9254-2008

Highest frequency of a product > 108 MHz

- Then conducted on the Telecom Port
- Radiated up to 6 GHz is required

Is a sample required to update CCC based on new GB standard (GB9254-2008)

- Two conditions need to be checked
 - Does the product have RJ45 Port ?
 - Is the highest clock frequency higher than 108 MHz ?
- If both conditions are satisfied, then a sample is required for EMC testing based on the new GB9254 standard



CCC: CLASS A vs. CLASS B

Class Definition

- Class A : Product for business use
- Class B : Product for Home use

The class A product will have the information shown on the CCC certificate

产品标准和技术要求

GB4943-2001 GB9254-1998 (CLASS A) GB17625.1-2003

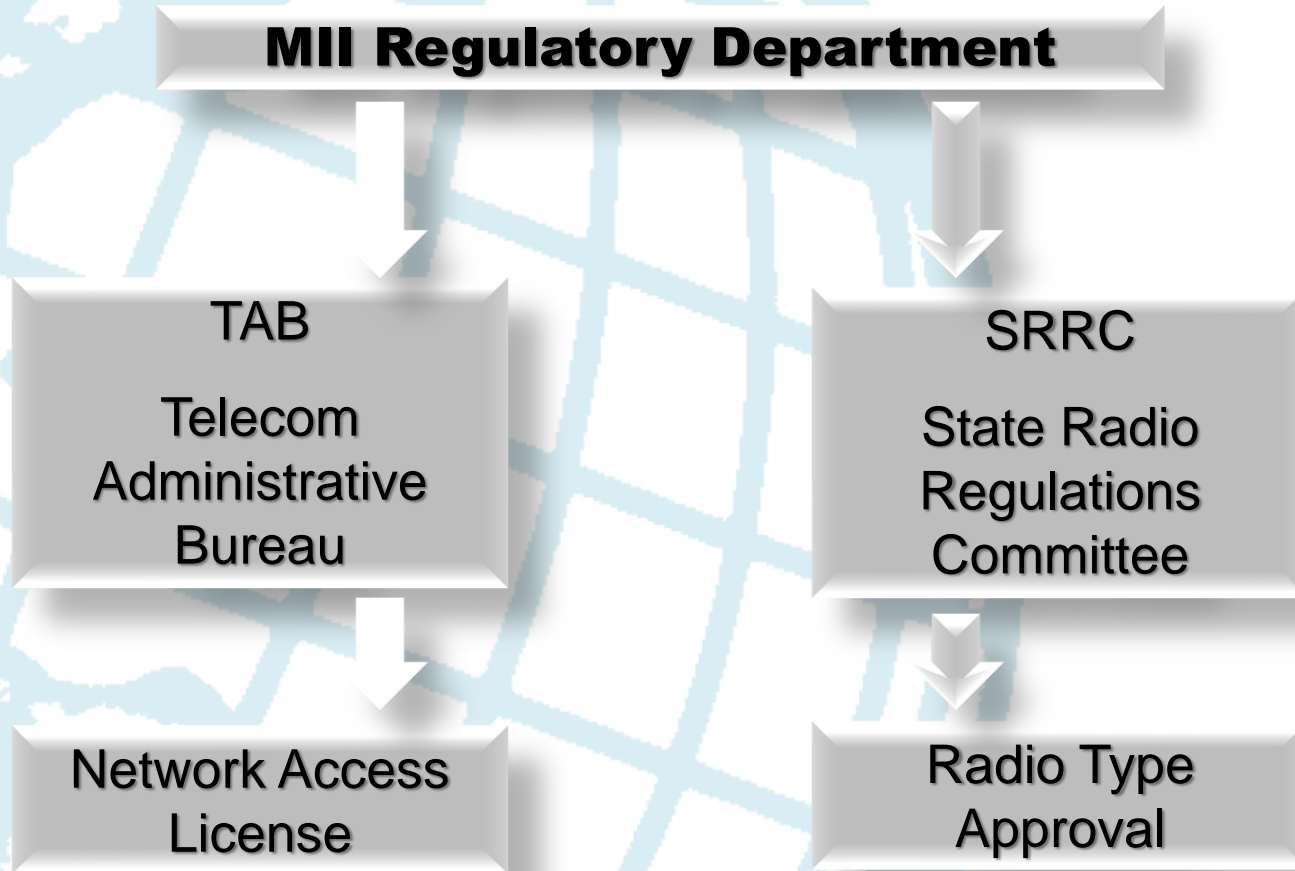
The following Class A warning statement needs to be placed in the user manual

声 明

此为 A 级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对其干扰采取切实可行的措施。



CHINA: NAL AND RADIO-TYPE APPROVAL



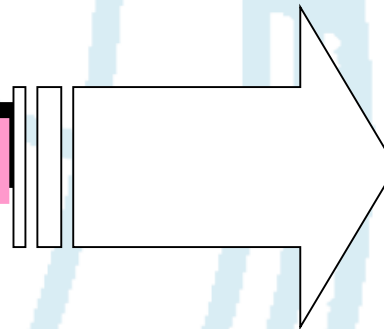


MII Network Access License - NAL

Documents Review

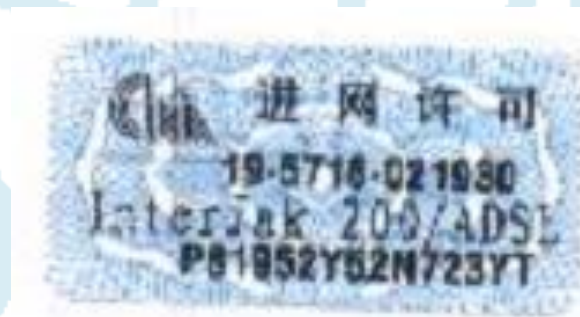
Product Testing

Quality Assurance





NAL LABELS



The flowchart details the process for applying for a network access license or trial batch document for telecommunication equipment. It starts with 'Applying for enterprise preparation materials' and branches into 'License renewal', 'General equipment', 'Important equipment', and 'Modification'. The process involves checking for product and system certification certificates, reporting to the local communication management bureau, and undergoing organizational quality assurance review. Depending on the review results, the applicant may need to re-examine after 6 months or 1 month. The process then moves to sampling and testing, including on-site testing by inspection institutions and simulation testing at the RTnet or MTnet center. The final steps involve comprehensive review, approval by the telecommunications management bureau, and notification of the enterprise to obtain the license or trial batch document. A note specifies that the receiving department, quality system review department, technical review department, and comprehensive department are all related functional departments of the receiving institution.

```

graph TD
    Start([开始]) --> A[申请企业准备资料]
    A --> B[换证]
    A --> C[一般设备]
    A --> D[重要设备]
    A --> E[改造]
    
    B -- 未到期 --> B
    B -- 到期 --> F{是否具有产品认证证书}
    C --> F
    D --> F
    E --> F
    
    F -- 是 --> G{是否具有体系认证证书}
    F -- 否 --> H[报地方通信管理局]
    G -- 是 --> I[企业自行准备样品送样]
    G -- 否 --> H
    
    I -- 常规情况 --> J[检测受理]
    I -- 改造情况 --> J
    
    J -- 不检测 --> K[检测机构实施进网检验]
    J -- 须检测 --> K
    
    K -- 合格 --> L[终端 1 个月后抽样、检验；  
系统 2 个月后抽样、检测。]
    K -- 不合格 --> M[补测]
    M -- 重测 --> L
    L -- 合格 --> N[通知受理中心]
    L -- 不合格 --> O[不合格]
    
    O --> P[需要重新审核]
    O --> Q[需要专家评审]
    O --> R[需要进网试验]
    O --> S[需要重测或补测]
    
    P --> T[质量体系审核部]
    Q --> U[专家评审]
    R --> V[电信网络模拟试验中心  
(RTnet 或 MTnet)]
    S --> V
    
    U --> W[质量体系审核部]
    V --> W
    
    W -- 合格 --> X[技术审核部]
    W -- 不合格 --> P
    
    X --> Y[综合部审查所有资料，并将审核意见上报]
    W --> Y
    
    Y --> Z[电信管理局审批]
    Z -- 合格 --> AA[受理部]
    Z -- 不合格 --> AB[受理部]
    
    AA --> AC[书面通知企业  
及省市通信管理局  
结束]
    AB --> AD[书面通知省市通信管理局  
结束]
    
    Note[注：受理部、质量体系审核部、  
技术审核部、综合部均为受理机构  
相关职能部门]
  
```



RADIO TYPE APPROVALS: PRODUCTS

Category I:

Wireless Base Station

Subtotal of 10
types

Category II:

Microwave Com Eq

Subtotal of 5
types

Category III:

Short Range Devices

Subtotal of 12
types

Total of
27
types



SRRC: RADIO IMPORT PERMIT

信息产业部无线电管理局 无线电设备进关审查批件

编号: 2002-123

天津 海关:

兹有 美国菲乐耐公司北京代表处 自 美国 进口下列无线电设备, 其合同号(或协议)为: 00238865(6), 经审查, 符合我国无线电管理有关规定, 请你关办理设备进口手续。

有效期: 2002年12月31日 前到货有效

经办人: 焦晓涛

